

## CLAIMS:

1. High-pressure mercury vapor discharge lamp (1) comprising a lamp vessel (2) made of a transparent ceramic material, enclosing a discharge space (3) comprising an ionizable discharge medium and at least two electrodes (4,5), each provided with an electrode tip (4a, 5a), which tips are spaced apart at a mutual distance  $d$ , and electrical feed-through elements (6,7) which extend from the electrodes (4,5) to the exterior, characterized in that the distance  $d$  between the electrode tips (4a,5a) is less than 1.0 mm and the mercury density in the vessel (2) is higher than  $0.3 \text{ mg/mm}^3$ .
2. Lamp as claimed in claim 1, characterized in that the distance between the electrode tips (4a,5a) ranges from 0.3 to 0.8 mm.
3. Lamp as claimed in claim 1 or 2, characterized in that the distance between the electrode tips (4a,5a) ranges from 0.3 to 0.6 mm.
4. Lamp as claimed in claim 1, 2 or 3, characterized in that the mercury density in the vessel (2) ranges from 0.3 to  $0.8 \text{ mg/mm}^3$ .
5. Lamp as claimed in claim 1, 2 or 3, characterized in that the mercury density in the vessel (2) range from 0.4 to  $0.7 \text{ mg/mm}^3$ .
6. Lamp as claimed in any of the preceding claims, characterized in that the lamp vessel (2) comprises a bulging section (8) communicating with at least two feed-through channels (10,11) having an inner diameter smaller than the bulging section (8).
7. Lamp as claimed in claim 6, characterized in that the bulging section (8) is substantially cylindrical over the distance  $d$  and has an internal cross-sectional diameter  $D_i$  ranging from 1.5 to 4.5 mm and a length  $L$  ranging from 4 to 8 mm.

8. Lamp as claimed in claim 6 or 7, characterized in that the wall load on the inside of the vessel (2) during operation ranges from 40 to 150 W/cm<sup>2</sup>.

9. Lamp as claimed in any of the preceding claims 1-8, characterized in that the  
5 ceramic material is chosen from the group consisting of sub-micro polycrystalline aluminum (PCA), yttrium aluminum garnet (YAG), Y<sub>2</sub>O<sub>3</sub>, MgAl<sub>2</sub>O<sub>4</sub>, and aluminum nitride (AlN).

10. Lighting apparatus, comprising a main body and at least a lamp as described in any of the claims 1-9.